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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,015	03/17/2004	Kimihiro Kikuchi	9281-4762	5124

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Brinks Hofer Gilson & Lione
P.O. Box 10395
Chicago, IL 60610

EXAMINER

LAZORCIK, JASON L

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,015

Applicant(s)

KIKUCHI, KIMIHIRO

Examiner

Jason L. Lazorcik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 03/17/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: IDS Filed: 03/09/2005.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a holder material "made of, for example aluminum or stainless steel", does not reasonably provide enablement for a cylindrical holder material having a "softening temperature" in accord with the conventional use of this term in the art. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

Specifically, Claim 1, lines 7-8, Claim 15, lines 2-3, Claim 16, Lines 2-3, and Claim 17, line 2-3 recite limitations regarding the softening temperature of the cylindrical holder material. It is understood by the Examiner that while pure metals and metal alloys display a melting point, they do not exhibit a "softening temperature" as conventionally utilized to describe a change in viscosity exhibited by glassy materials. Were there supporting evidence in applicants disclosure that such a glassy material was utilized in the instant invention, the immediate claim language would be fully supported. However, applicants repeated indication that either of stainless steel or aluminum is utilized as the preferred material of construction for said "holder material" fails to support

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a case wherein a material with a "softening temperature" is utilized as the holder material.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7, 9, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the micro-pores" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation wherein "the projected portion comprises a hemispherical section of the optical element material". It is unclear precisely how applicant seeks to limit the "projected portion" through the use of the term "a hemispherical section", and therefore the particular metes and bounds for which applicant seeks protection are rendered unclear and indefinite.

Claim 13 recites the limitation "the flow resistance of the holder material" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, 8, 12-16, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Bartman (US 4,891,053).

Bartman teaches positioning a lens blank into a holder consisting of two cylindrical rings which define an annular or "concentric" void/"cavity" in an inner circumferential surface. The lens blank and holder are heated to the working temperature of the glass blank or "the softening temperature" at which point they are press molded. During said press molding, a portion of the optical element is extruded into and retained by the void part of the holder, said extruded portion extending outwardly from an outer edge of the optical element. This projected portion (see element (25) in Fig 6 below) is broadly construed as a "hemispherical section of the optical-element material".

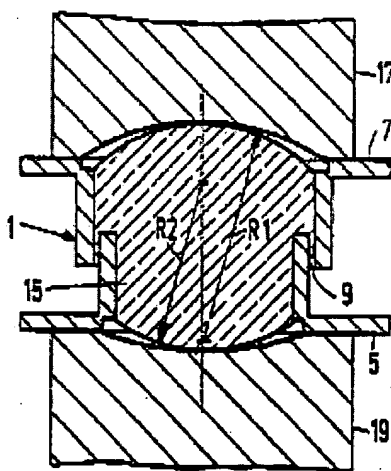


FIG. 5

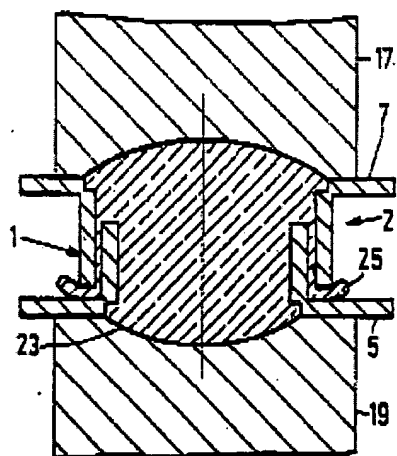


FIG. 6

Bartman indicates that an excess of glass material is utilized in order to allow for extrusion during the pressing operation (Column 2, Lines 12-13) and that the annular gap between the rings can be determined so that an effectively high pressure can be realized during the moulding process (Column 1, line 68-Column 2, Line 7). In other words, the "volume of the void" and therefore the flow resistance of the holder material are adjustable in order to realize an adequate pressure during the molding cycle.

With respect to claims 10, 12, and 18, it is understood that a cylindrical holder inherently comprises "an outer portion forming an outer circumferential surface", that the holder material has an inherent resistance to flow, that the glass optical element material is inherently characterized by "a viscosity", a glass transition temperature and a glass softening temperature. Further in accord with the fundamental laws governing fluid dynamics, "the flow resistance of the holder material" and specifically the resistance to flow experienced by the optical element material in the annular cavity necessarily and inherently varies inversely with the viscosity of the optical element material.

Regarding Claims 16 and 19, Claim 1 recites the limitation that "the materials are heated to their own softening temperature" in line 7-8 of the identified claim. Therefore said optical-element material is inherently heated to "a temperature about 30 degrees lower than the softening temperature of the cylindrical holder material" as set forth in Claim 16 and to "a temperature between the glass transition and the glass softening temperature of the optical element material" as set forth in Claim 19.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bartman (US 4,891,053) as applied to Claim 1 under 35 USC 102(b) above and in further view of Angenent (US 4,895,585).

With respect to claim 3, Bartman fails to explicitly set forth the limitation wherein the cylindrical holder material is press molded in a radial direction. Angenent teaches the use of a supporting ring (see element (5) Figs 1a-c) which serves "as a temporary abutment" to improve the reproducibility of the process. (Column 1, Lines 58-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement such a supporting ring to act as a temporary abutment in the Bartman process. This would have been an obvious modification to the Bartman process to one

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seeking to insure proper alignment of the holder materials during the press operation and thereby to "improve the reproducibility of the process".

Claims 6, 7, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartman (US 4,891,053) as applied to claim 1 under 35 USC 102(b) above, and further in view of Neid (US 5,290,333). Bartman is silent regarding the presence of micropores in the void part" as set forth in claim 6 or "micro-pores on the inner circumferential surface" as set forth in Claim 7 for the purpose of retaining the projected portion of the optical element. Neid teaches that the interlocking structure that arises when a glass penetrates the pores or cavities of a substrate "provides further mechanical bond strength by virtue of " the interlocking nature of the structure" (column 2, Lines 9-13). It would therefore have been obvious to one of ordinary skill at the time of the invention to provide cavities or micropores on the inner circumferential surface or the surface of the concentric void in the Bartman process in order to provide such an interlocking structure between the extruded glass and the void surface. This would have been an obvious modification for one of ordinary skill seeking to enhance the structural stability and durability of the resulting structure by providing an interlocking structure.

Regarding Claim 9, projected portion of optical element material (see element (25) in Fig 6 above) disclosed by Bartman is broadly construed as a "hemispherical section of the optical-element material"

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Regarding Claim 10, it is understood that a cylindrical holder disclosed by Bartman inherently comprises "an outer portion forming an outer circumferential surface", as set forth in the under 35 USC 102(b) above.

Regarding Claim 11, Bartman teaches that the two rings are made of an Ni alloy (column 3, lines 59-60) or "made from an anti-magnetic material" (column 4, Lines 4-5). It is commonly appreciated in the art that Austenitic stainless steel (e.g. 306 and 316 stainless steel) contain between 8 and 20 percent Nickel and are therefore broadly considered nickel alloys (<http://www.contractorsunlimited.co.uk/toolbox/stainless-steel.shtml>). Further, Aluminum is commonly appreciated in the art as an anti-magnetic or non-magnetic metal. It would have therefore been obvious to one of ordinary skill in the art at the time of the invention to utilize 306 or 316 stainless steel or aluminum as the material of construction for the "holder material".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Lazorcik whose telephone number is (571) 272-2217. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLL


ERIC HUG
PRIMARY EXAMINER